GIA Environmental Health and Safety Chemical Safety Standard

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ABSTRACT: The purpose of this GIA standard is to define the basic elements and responsibilities to ensure the proper use, storage, transportation, handling, and disposal of chemicals.

APPLICABILITY: This standard shall apply to GIA facilities and operations worldwide unless superseded by more stringent country and/or local regulations.

STATUS: APPROVED 24-Jun-1991; use VTX SMC for current status.

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1 INTRODUCTION

The purpose of this GIA standard is to define the basic elements and responsibilities eliminating potential hazards involved in the use, storage, transportation, handling, and disposal of chemicals.

1.1 SCOPE

This standard shall apply to GIA facilities and operations worldwide unless superseded by more stringent country and/or local regulations.

1.1.1 Policy

A chemical may only be brought into a Digital facility or operation after a documented assessment of the safety, health, and environmental hazards of that chemical has been completed, required controls are in place, and may only be used after training has been conducted for those potentially exposed.

1.2 RESPONSIBILITIES

This section describes the responsibilities of the persons involved in fulfilling the requirements of this document.

- Site Managers

  Ensure that a process exists to assure that chemicals used on-site or within the operation are reviewed for potential safety, health, and environmental hazards; controls are in place; and training is conducted for those potentially exposed.

  Ensure that a process is in place to assure that when a choice exists, that the least hazardous chemical is being used in a particular situation.

- Department Managers

  Ensure that all employees involved in the use, storage, transportation, handling, and disposal of chemicals are properly protected, trained, and follow safe operating procedures and practices.

  Ensure that new chemicals are introduced only after they have been evaluated for potential safety, health, and environmental hazards; the proper controls are in place; and the proper training has been conducted for those potentially exposed.

  Ensure that there are ongoing documented checks for unsafe acts and/or conditions and that deficiencies are promptly corrected.

- Supervisor

  Review each operation that involves chemicals and evaluate potential hazards with the assistance of site Environmental Health and Safety (EH&S).

  Ensure that all chemicals have been reviewed by the site chemical approval process before being introduced into the work area.

Ensure that all employees are trained in safe chemical handling procedures, that the training is documented, and that records are maintained by EH&S in departmental files, in personnel files, and/or in a central location.

Ensure that chemical labels are affixed to all tanks, pipes, containers, and bottles.

Ensure that employees only use chemicals that are contained in properly labeled containers.

Maintain a current file of accurate and up-to-date Material Safety Data Sheets (MSDS) for chemicals used in the department.

Ensure that all employees who may potentially be involved in the use, storage, transportation, handling, and disposal of chemicals know how to obtain and use the appropriate MSDSs.

Ensure that all employees are supplied with and use appropriate personal protective equipment (PPE), as required.

Enforce the use of PPE in operations where it is required.

Enforce the use of engineering controls in operations where they are required.

Ensure that chemical safety procedures are documented and followed.

Ensure that chemical disposal and recycling procedures are documented and followed.

- Employees

  Follow established site chemical handling procedures.

  Use, store, transport, handle, and dispose of chemicals only after having received the proper training and after being properly protected.

- Site Environmental Health and Safety

  Provide EH&S review and recommendations for the introduction, use, storage, transportation, handling, and disposal of new chemicals prior to their inclusion in a process or operation.

  Assist department managers and supervisors in the evaluation of potential safety and health issues as well as the controls and facilities that may be required for the proper use, storage, transportation, handling, and disposal of chemicals.

  Work collaboratively with Health Services to develop and implement necessary medical surveillance programs.

  Ensure that applicable regulations, policies, codes, and recommended practices are available and reviewed prior to introduction of new chemicals.

Ensure that industrial hygiene monitoring is conducted to evaluate the effectiveness of work place controls and procedures to ensure that they are sufficient to maintain exposures below occupational health limits.

Maintain a current file of accurate and up-to-date MSDSs for chemicals used on site and in related operations.

Assist department managers and supervisors in training employees in the required aspects of chemical safety.

Evaluate, assist, and approve the selection of PPE for use in chemical areas.

- Health Services

  Develop and implement chemical exposure emergency response procedures.

  Work collaboratively with EH&S to develop and implement necessary medical surveillance programs.

  Notify local hospital/health care facility of the potential emergency chemical-specific needs.

1.3 LANGUAGE REQUIREMENT FOR THIS STANDARD

The details of this standard and all documentation associated with it, such as manuals, training materials, signs, labels, postings, and so forth, must be available in English and the accepted and official local languages.

2 PROGRAM DETAIL

This section describes program detail in the training, purchasing, and handling when a chemical in introduced.

2.1 TRAINING

Employees shall be trained in the necessary requirements for the proper use, storage, transportation, handling, and disposal of chemicals with which they work and/or to which they may potentially be exposed.

Training shall be documented and the records shall be maintained by EH&S, recorded in each employee's personnel file, in the department file, and/or in a central location.

Training will involve, but not be limited to the following.

Safety awareness
Health and safety hazards of the chemicals in the area
Safety and health rules
Written safe work practices and documented procedures
Understanding and use of MSDSs
Understanding of the system used for chemical labeling
Use, maintenance, and limitations of required PPE and engineering controls
Proper chemical disposal procedures

Emergency procedures

Retraining shall be provided as required, typically annually, and when a new hazard is introduced.

Procedures shall include the following.

Daily equipment inspection prior to start-up
Process equipment start-up
Normal, as well as, emergency shutdown
Handling of bulk chemicals

2.2 INTRODUCTION OF NEW CHEMICALS

No new chemical, including samples, will be introduced for use without having been reviewed through the established site chemical approval procedure.

Approval is for the use at a specific process or operation

Review is to assure proper use, storage, transportation, handling, and disposal of chemicals

2.3 PURCHASING

New chemicals shall not be ordered until the following requirements have been met.

MSDSs for the chemicals, including samples, have been obtained and reviewed. This should be done early in the project planning process to ensure time to identify alternatives, if necessary.

The chemical has been reviewed through the established site chemical approval procedure.

Purchasing shall assist EH&S and the site chemical management process with the required review and approval of MSDSs, future updates, and additional information that may be requested by the supervisor or requisitioner.

Disposal contractors shall be formally qualified in accordance with Corporate and Area Purchasing policies. Qualifications shall be determined with the participation of Area EH&S.

2.4 HANDLING

Chemical docks and receiving areas shall be equipped to safely handle the materials, provide segregated temporary storage, and handle any probable spill emergencies. Involved employees must be trained.

Transportation times and routes through occupied spaces in the building shall be carefully selected to minimize personnel exposures in case there is a spill.

Chemicals shall be mixed and poured, where necessary, under a chemical or laboratory hood or other type of exhaust or ventilation control system to prevent excessive airborne exposure to the chemical being handled.

Required chemical protective clothing and equipment, such as gloves, aprons, and respirators, shall be used.

Flammable and combustible chemicals shall be dispensed from bulk to approved safety containers.

When dispensing flammable and combustible chemicals, proper bonding of both containers to ground must be in place to dissipate static charge. It shall not be done adjacent to open flames, such as welding.

Good housekeeping shall be maintained in areas where chemicals are used and stored.

Spill prevention and control equipment shall be provided near the area where the chemical is being handled.

2.5 STORAGE

Chemicals shall be stored and segregated according to their classification (such as reactivity, corrosivity, flammability, and toxicity) to avoid proximity with incompatible materials.

Storage areas shall have adequate ventilation.

Chemical containers shall be kept closed at all times when not in use.

Signs shall be posted prohibiting smoking or open flames within a minimum of 25 feet of any flammable and combustible storage or as required by local or country regulations.

Highly toxic or unstable chemicals shall be stored in locked cabinets, enclosures, or compartments.

Outside of the central chemical storage area, where more than ten gallons of chemicals or five gallons of flammable and/or combustible liquids are used daily, the materials shall be stored in approved flammable storage cabinets or as required by local or country regulations.

Appropriate spill control/neutralization agents shall be immediately available and in sufficient quantities for the potential hazards present.

2.6 LABELING

All chemical containers shall be properly labeled. This includes the following.

Original containers
Point of use containers (for example, squeeze bottles)
Safety cans
Waste disposal cans
Process tanks, benches, and hoods
Piping

The original container label must include the following.

Identification of the contents
Potential hazard
Required precautions and PPE requirements
Recommended first aid treatment

At a minimum, all other labels shall contain the following.

Chemical and/or trade name
Type of hazard (flammable, corrosive, toxic, reactive)

2.7 DISPOSAL

All chemicals must be disposed of in accordance with applicable local and country regulations as well as according to Digital EH&S policies, standards, and guidelines.

In areas where waste solvent cans are used, provisions must be made to ensure that incompatible chemicals are not mixed.

Where waste solvent drains are present in chemical hoods, they must be labeled *WASTE SOLVENT DRAIN ONLY*.

Waste solvent cans under chemical hoods shall be serviced and maintained on a regular basis.

2.8 EXPOSURE MONITORING

All chemical exposures shall be evaluated to ensure their safe use and the control of potential hazards. (See EL-MF751-00, *GIA Environmental Health and Safety Industrial Hygiene Program Elements Standard*)

3 EMERGENCY EQUIPMENT

This section describes the requirements for emergency equipment.

3.1 EMERGENCY RESPONSE EQUIPMENT

The emergency response equipment to meet any reasonably probable emergency must be immediately available. The equipment selected must be be both safe and effective in operation.

Equipment that might be unsafe under certain circumstances (for example, nonexplosion proof equipment must not be used during flammable liquid spills) must have permanent warning labels attached.

The location of the equipment must be such that it most effectively serves its intended use, and it must be located outside of the area where the emergency may be expected to occur.

Equipment must be cleaned after each use and restored to its original condition. Used supplies must be fully replaced in a timely manner.

3.2 TRAINING

Training shall be supplied for employees who work with chemicals or chemical process equipment, and for employees who respond to chemical emergencies.

3.3 EMERGENCY SHOWERS AND EYE/FACE WASH EQUIPMENT

Emergency showers and eye/face wash equipment shall be provided for immediate flooding with large amounts of tempered water. They shall be considered for extinguishing clothing fires where such a potential exists.

Combination emergency shower and eye/face wash shall be available where there is the potential for the contamination of a large portion of the body including the eyes, face, or body by toxic, irritant, corrosive, or radioactive material.

Where there is only a potential exposure to the eyes, the installation of an eye/face wash may be sufficient. This must be agreed upon by department management/supervision and EH&S.

Units must be hard plumbed to a dependable water source.

Portable/temporary eyewash stations shall only be used in the absence of a dependable plumbed water supply or during a period of time when a hazard exists and until a hard plumbed eyewash can be installed.

Portable or temporary eyewash stations are not approved for permanent installation and/or use. Where they are required, they shall be checked biweekly for cleanliness and function.

3.3.1 Distance from Hazard to Shower and/or Eye/Face Wash Equipment

The maximum distance from a potential hazard to the emergency shower and/or eye/face wash must be no greater than 100 feet or 10 seconds walking travel distance.

Fixtures shall be readily accessible and clearly identified, or as required by country or local regulations.

Where it is determined that a severe potential for injury exists, the emergency shower and/or eye/face wash must be located closer than the maximum distance.

Fixtures shall not be separated from the hazard by a wall or partition which would require passage through a doorway unless the potential hazard requires escape from the immediate area.

3.3.2 Testing Showers and/or Eye/Face Wash Equipment

Units shall be activated during inspection on a monthly basis, minimum, or often enough to assure that the lines are flushed and to verify proper operation of the equipment.

Operational and facilitation criteria for emergency showers and eye/face washes shall be determined by local and/or country regulations or by the American National Standards Institute (ANSI) Standard, *"For Emergency Eyewash and Shower Equipment*, Z358.1-1981."

4 SAFE WORK PRACTICES

Employees must be trained before being assigned to perform work involving use, storage, transportation, handling, and disposal of chemicals.

Training must include specific safe work practices established for each location.

Department managers/supervisors are responsible to assure that safe work practices are followed.

4.1 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The requirements for each operation must be detailed in writing. Operations shall only be performed with the required PPE.

Worn or damaged equipment shall not be used and must be immediately replaced or repaired.

4.2 DAILY INSPECTIONS

All equipment, including PPE, shall be inspected each day, prior to use. The equipment must meet health and safety requirements.

4.3 EMERGENCY PROCEDURES

Emergency procedures shall be developed to handle probable emergencies for each work assignment. These shall include, but not be limited to the following.

Proper use of emergency showers and eye/face washes
Spill reporting and control
Emergency shutdown of process equipment
Training to administer the appropriate first aid

Qualified employees shall demonstrate a ready knowledge of emergency procedures, spill response plan, and use of required equipment and supplies.

4.4 UNKNOWN CHEMICALS

Positive identification of unknown chemicals is required before use, handling, transportation, or disposal; EH&S will assist in this effort.

4.5 FLAMMABLE AND COMBUSTIBLE LIQUIDS

Training is required to assure that precautions are taken to:

Control vapor generation
Eliminate ignition sources
Prevent static discharges in dispensing and using flammable and combustible liquids

4.6 EMPLOYEE REACTION TO CHEMICALS

Employees shall be advised as to the potential symptoms that might indicate over-exposure to chemicals in their work area.

Any adverse reactions shall immediately be reported to Health Services and EH&S.

APPENDIX A REFERENCED DOCUMENTS

A.1 EL-Class Digital Documents

EL-Class Number	Document Title
EL-MF751-00	*GIA Environmental Health and Safety Industrial Hygiene Program Elements Standard*

Use VTX SMC to order copies of EL-class documents from Standards and Methods Control. Send distribution questions to JOKUR::SMC or call DTN: 234-4423.

A.2 Other Documents

Document Number	Document Title
	For Emergency Eyewash and Shower Equipment, Z358.1-1981

This document is available from the following source.

ANSI Documents
American National Standards Institute (ANSI),
1430 Broadway, New York, NY 10018,
Telephone (212) 354-3300 x479

APPENDIX B RELATED DOCUMENTS

B.1 EL-Class Digital Documents

EL-Class Number	Document Title
EL-CP534-00	*Hazardous Materials/Dangerous Goods Policies and Procedures Manual*
EL-MF738-00	*GIA Environmental Health and Safety Working Alone Standard*
EL-MF740-00	*GIA Environmental Health and Safety Electrical Safety Standard*
EL-MF742-00	*GIA Environmental Health and Safety Eye Protection Standard*
EL-MF744-00	*GIA Environmental Health and Safety Lockout/Tagout of Energy Sources Standard*
EL-MF745-00	*GIA Environmental Health and Safety Employee Right-To-Know Standard*
EL-MF752-00	*GIA Environmental Health and Safety Cyanide Safety Standard*

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